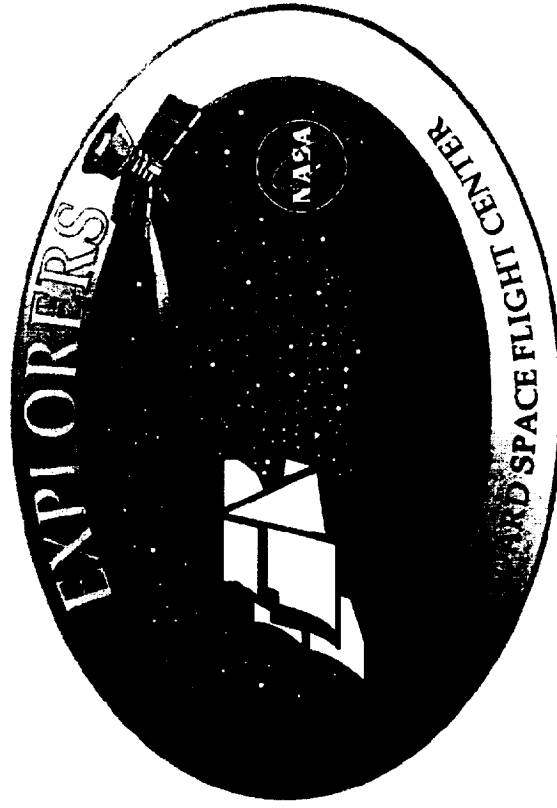
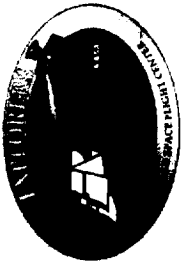


Explorers Program Management



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Explorer Program Mission

The mission of the Explorer Program is to provide frequent flight opportunities for world-class scientific investigations from space within the following space science themes:

Astronomical Search for Origins and Planetary Systems
Structure and Evolution of the Universe
The Sun-Earth Connection

America's space exploration started with Explorer 1

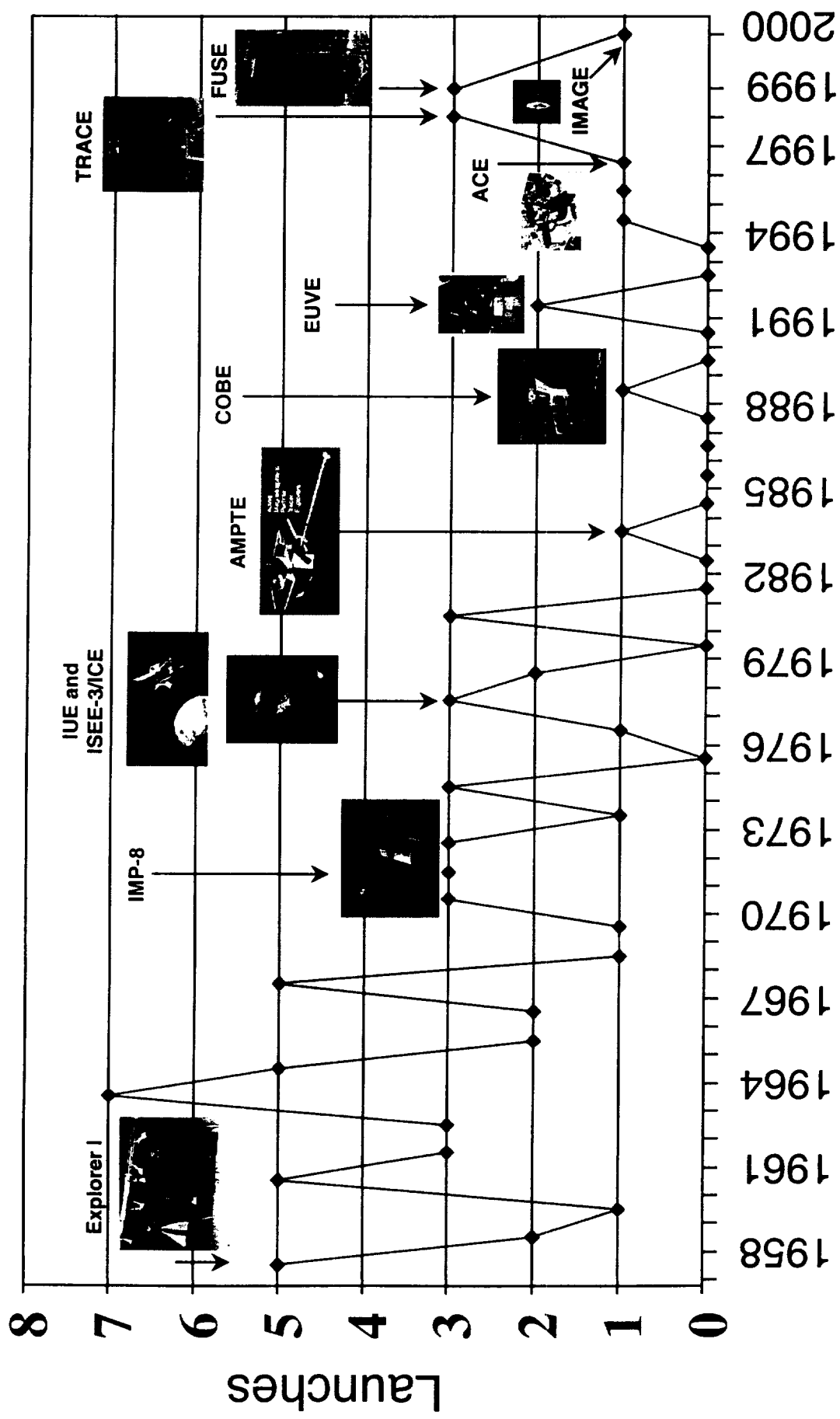
Launched February 1, 1958

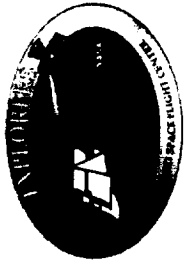
Discovered the Van Allen Radiation Belts

Over 75 Explorer missions have flown

The program seeks to enhance public awareness of, and appreciation for, space science and to incorporate educational and public outreach activities as integral parts of space science investigations.

A Brief History of Explorers





Frequent Explorer Space Flights

- One launch per year in each of four different classes of missions
 - MIDEX - Medium Explorers
 - SMEX - Small Explorers
 - UNEX - University Explorers*
 - MOpp - Missions of Opportunity

** UNEX missions transferred to Sounding Rocket Program pending availability of low cost launch capability*



Explorers Technology*

- Objective - identify, develop, infuse and transfer technologies that enable or enhance opportunities for frequent space flight scientific investigations
- Goal - new technology that leads to lower mission costs
- Three elements:
 - Non mission-specific technology via NRA solicitation
 - Mission-specific technology via funding of AO Category 3 proposals
 - Partnering opportunities via funding of unsolicited proposals
- Budget - \$6M per year

**Technology Program on hold due to budgetary considerations*



Explorer Program Requirements

- Explorer mission requirements start with the release of the NASA Headquarters Announcement of Opportunity
- This document invites proposals for the Office of Space Science (OSS) and contains the detailed directions, constraints and guidelines for the submissions
- Selection of an investigation is made after a formal evaluation process
- The GSFC Explorers Program then executes the management of those selected investigations



Explorer Program Requirements

- Typically, the selected investigations are funded by phase through mission operations. However, readiness must first be demonstrated before moving into the next phase of development. Confirmation and approval by NASA OSS is required before moving to the next phase.
- All Explorer projects are cost capped. The cost cap applies to the full life cycle cost from formulation through data analysis.



PI-Mode Management Responsibility

- The PI is responsible for mission scientific and programmatic success and safety
- GSFC is responsible for ensuring the PI takes the appropriate actions to achieve mission success within his/her committed cost, schedule, and safety reliability and quality assurance requirements
- HQ is responsible to select missions that can be accomplished within NASA requirements and constraints



PI-Mode Management Responsibility

- The GSFC Program is fulfilling its responsibility by providing value-added to the PI as follows:
 - NASA Project Manager is COTR and a member of the PI's project team
 - NASA Project Manager recommends courses of action and helps obtain government resources when requested
 - NASA system and discipline engineering participates with the PI's engineering team, as requested
 - NASA provides independent system reviews
 - NASA resource and business staff help maintain insight and provide recommendations through contract analysis and personal contacts
- The PI understands that the Program will call a Program or Cancellation review if the PI is headed outside his "box"
- The Program provides insight to NASA management through monthly reviews, weekly reporting, timely notification of problems/resolution plans, and involvement in special reviews

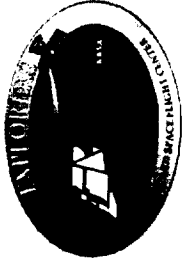


PI-Mode Tailored Management

- Every PI Mission is unique. Factors which vary from mission to mission include:
 - Complexity of mission and problems encountered
 - Experience base of PI Team
 - Project Management skills of PI
 - Receptiveness to Goddard involvement

Therefore:

- The extent of Goddard involvement varies from mission to mission, and with time for a given mission


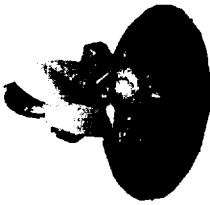






PI-Mode Mission Evaluation and Selection Process

- In PI-mode, the NASA HQ AO selection process is crucial
 - PI Mission Teaming arrangements, management, and key personnel must be well-defined and prepared to execute the mission upon final selection
 - If the mission has serious flaws, they are difficult to fix after final selection
 - All NASA requirements on the mission must be delineated in the AO
- Technical, Management, Cost and Other factors (TMCO) evaluations are critical to selecting and implementing a successful mission
 - Mission implementation feasibility must be equal to scientific merit in final selection criteria
- During Phase B, the Program must assure the PI addresses and corrects weaknesses identified during TMCO evaluation
 - PI-Mode Programs include the implementing Program Office as an ex-officio member of the TMCO panel



Explorer Missions in Development

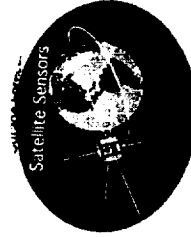
High Energy Solar Spectroscopic Imager (HESSI)	Microwave Anisotropy Probe (MAP)	Galaxy Evolution Explorer (GALEX)	Cosmic Hot Interstellar Plasma Spectrometer (CHIPS)	Two Wide-Angle Imaging Neutral-Atom Spectrometers (TWINS)	Swift (not an acronym)
					
Launch Date TBD	Launch Date June 2001	Launch Date January 2002	Launch Date August 2002	Launch Date 1 st Qtr. 2003 3 rd Qtr. 2004	Launch Date September 2003

Explorer Missions in Formulation

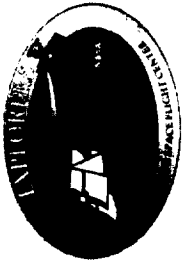
Full-Sky Astrometric Mapping Explorer (FAME)	Coupled Ion-Neutral Dynamics Investigations (CINDI)
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Launch Date
October 2004






Launch Date
Spring '03



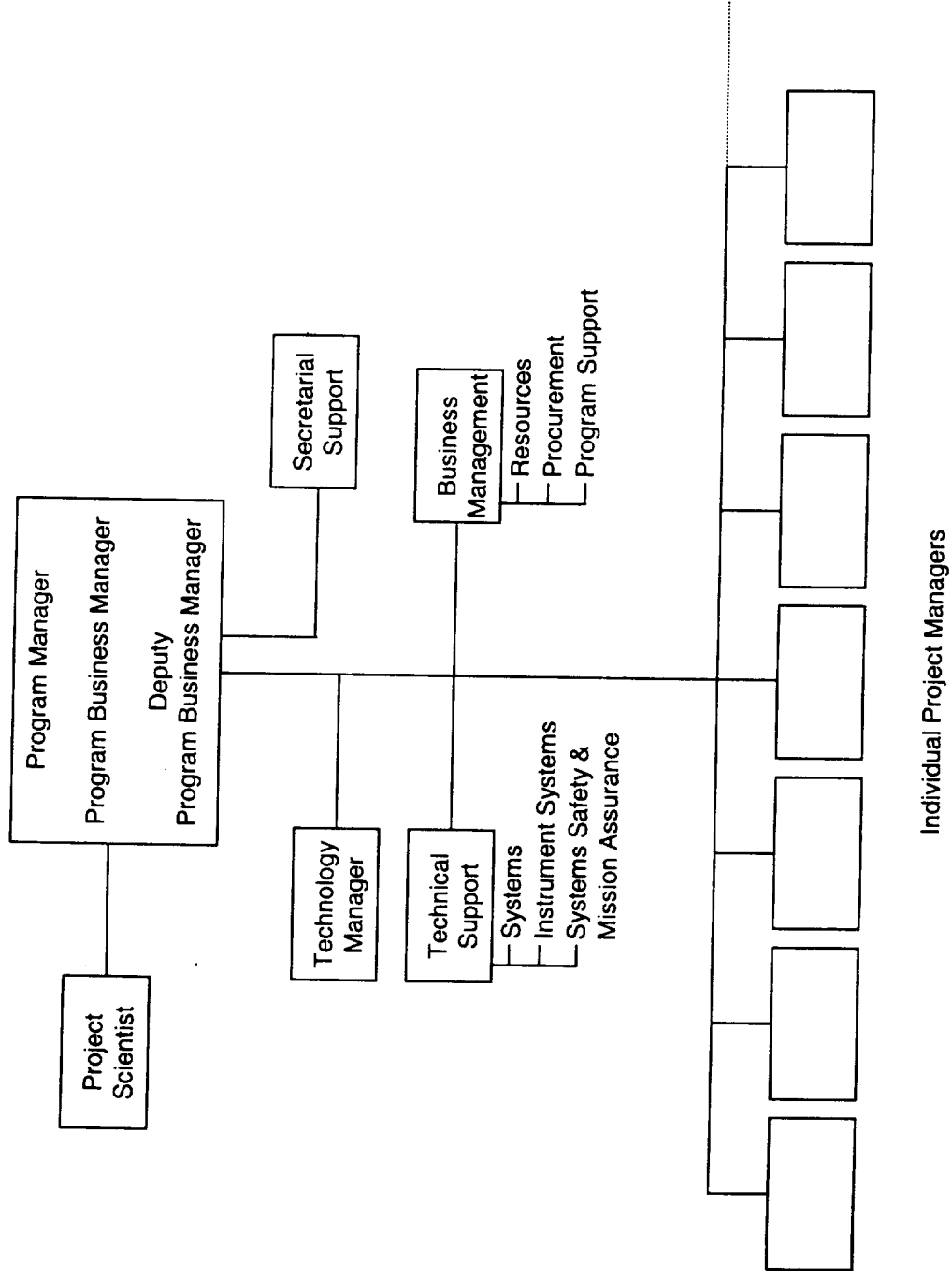
Missions Beyond Prime (Extended Operations)

Submillimeter Wave Astronomy Satellite (SWAS)	Transition Region and Coronal Explorer (TRACE)	Advanced Composition Explorer (ACE)	Fast Auroral Snapshot Explorer (FAST)	Solar Anomalous and Magnetospheric Particle Explorer (SAMPEX)
				
Launch Date December 5, 1998	Launch Date April 1, 1998	Launch Date August 25, 1997	Launch Date August 21, 1996	Launch Date July 3, 1992

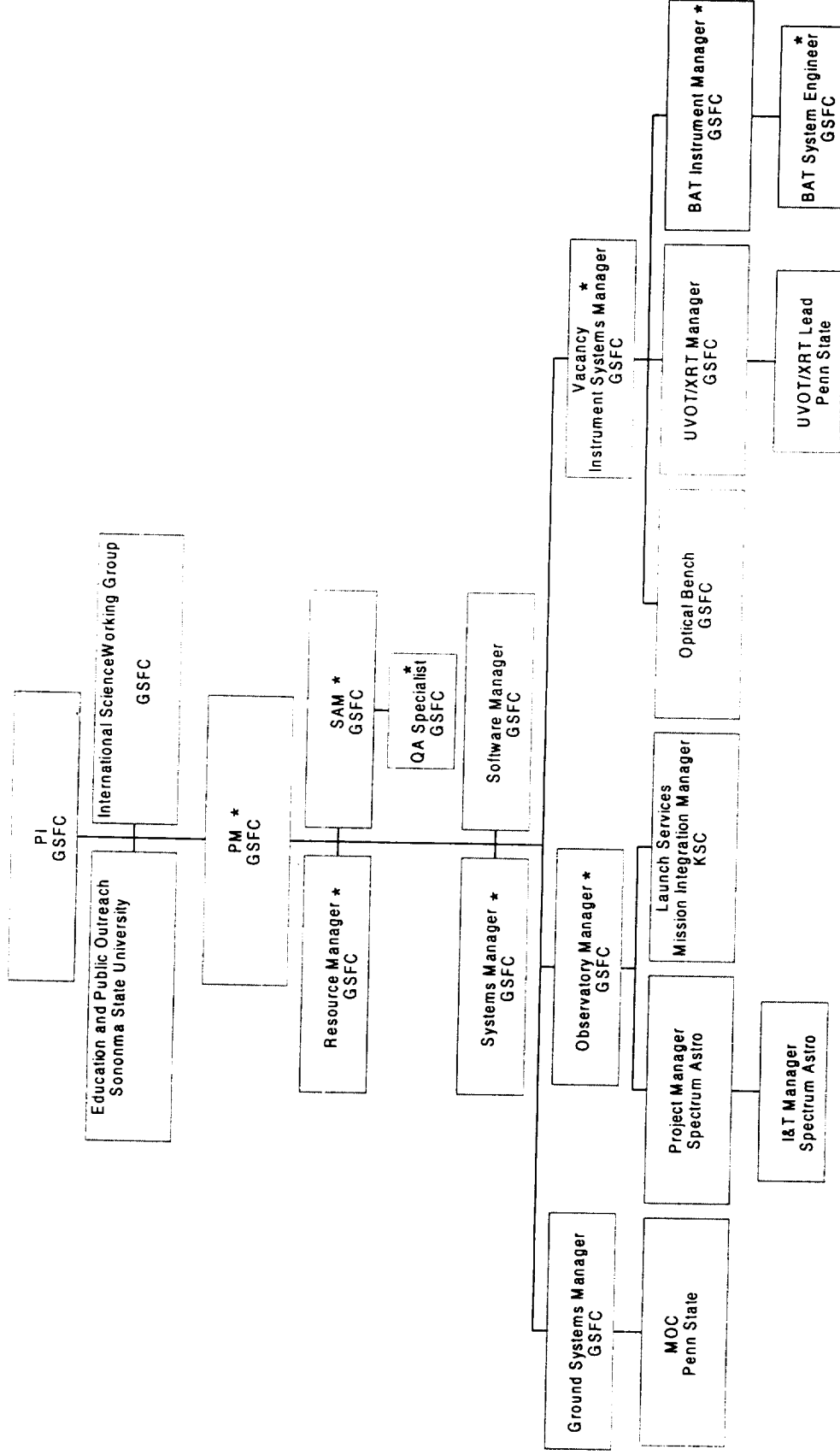
Explorer Missions in Prime Operations

Far Ultraviolet Spectroscopic Explorer (FUSE)	Imager for Magnetopause-to-Aurora Global Exploration (IMAGE)	High Energy Transient Explorer-2 (HETE-2)
		
Launch Date June 24, 1999	Launch Date March 25, 2000	Launch Date October 9, 2000

Explorers Program



SWIFT



*Resides with Explorers Program



Reviews

- Each Explorers project is verified for compliance with NASA requirements by independent review
- Reviews conducted throughout the project life cycle must be conducted by a team that is independent of the team being reviewed. Following are examples of the types of reviews that may be implemented for a given project
 - Concept Review
 - System Requirements Review
 - Confirmation Assessment Review
 - Confirmation Readiness Review
 - Confirmation Review
 - Preliminary Design Review
 - Subsystem Peer Review
 - Critical Design Review
 - Pre-Environmental Review
 - Pre-Ship Review
 - Flight Readiness Review
 - Operational Readiness Review
 - Mission Operations Review
 - Mission Readiness Review
 - Launch Readiness Review
- The number of reviews may be tailored for each mission. Actions and recommendations should be formally documented, assigned to project personnel, responded to and closed out by the Review Chairperson.